



STATE OF CALIFORNIA  
DEPARTMENT OF GENERAL SERVICES - PROCUREMENT DIVISION

# CONTRACT NOTIFICATION

\*\*\*\*\* MANDATORY \*\*\*\*\*

CONTRACT NUMBER: 1-07-58-27

DESCRIPTION: VHF LOW BAND MOBILE RADIO

CONTRACTOR: EF JOHNSON COMPANY

EFFECTIVE DATES: 9/18/2007 THROUGH 9/17/2010

SUPERSEDES CONTRACT NO.: NONE

AREA: STATEWIDE

DISTRIBUTION:

\* TAX: Add appropriate sales and use tax.  
Exempt from Federal Excise Tax.

\*Food contracts are tax exempt.

*Rita Hamilton* 9-17-07

RITA HAMILTON, Deputy Director

Use of this agreement by all agencies is mandatory with monetary exceptions stated herein or contained in State Administrative Manual.

To obtain assistance or report non-compliance by supplier, or for any suggestions or recommendations write:

Department of General Services, Procurement Division, P.O. Box 989054, W. Sacramento, CA 95798-9054,  
or call: Contract Administrator, NICOLE DELGADO 916-375-4476

## Contract (Mandatory): 1-07-58-27

SUPPLIER ID: 802938  
NAME: EF JOHNSON COMPANY  
ADDRESS: 1440 CORPORATE DR  
IRVING, TX 75038

CONTACT: 714-858-8116 VINCE JADULANG  
FAX NUMBER: 972-819-0639  
TERMS OF PAYMENT: Net  
FOB: Destination  
MINIMUM ORDER:

### SCOPE

This contract covers the estimated requirements of the State of California and participating local agencies for PORTABLE HAND HELD RADIO.

The term of the contract is for three-years at a fixed price; in addition, the contract contains two optional one-year extensions under the same terms and conditions of the awarded contract. The State and the contractor must agree on the extension via contract amendment(s). This contract is MANDATORY for use by all State of California departments and optional for local governmental agencies.

The contractor shall permit local governmental agencies to participate under this contract. For the purpose of this contract, local government agencies are defined as "any city, county, city and county, district or other governmental body or corporation, including the California State Universities (CSU) and University of California (UC) systems, K-12 schools and community colleges", empowered to expend public funds for the acquisition of products, (Public Contract Code Chapter 2, Paragraph 10298 (a) (b). Authorization to permit a local governmental agency to participate in this contract shall come through the State's Contract Administrator.

Local governmental agencies shall have the same rights and privileges as the State under the terms of this contract. Any agencies desiring to participate shall be required to commit to the same responsibilities as do State agencies and have no authority to amend, modify or change any condition of this contract.

The Contractor performing the responsibilities of this contract is:

### CONTRACTOR

EF Johnson Co.

The awarded contractor identified in this contract has been assessed by the Department of General Services (DGS) and determined to perform a commercially useful function. As a result, it is not necessary for State agencies operating under delegated authority to re-verify or document information to this fact in the procurement file when executing transactions pursuant to this contract.

### CONTRACT USAGE/RULES

1. This contract is mandatory for use by all State of California departments.
2. Local governmental agency use of this contract is optional. While the State makes this contract available to local governmental agencies, each local governmental agency should determine whether this contract is consistent with its procurement policies and regulations.

## Contract (Mandatory): 1-07-58-27

State Departments and Local Agencies are required to have a DGS billing code prior to using this contract. State agencies may obtain DGS billing codes by contacting their accounting departments. If Local agencies need help with billing codes, they may contact the DGS billing code contacts and provide the following: Local Government Agency Name, billing contact name, telephone number, and mailing address. E-mail the required information to the following contacts:

Marilyn.Ebert@dgs.ca.gov  
Wilson.Lee@dgs.ca.gov

3. Prior to placing orders against this contract, State departments must have been granted purchasing authority by Department of General Services, Procurement Division (DGS/PD) for the use of State's statewide contracts. The department's current purchasing authority number must be entered in the appropriate location on each purchase document. Departments that have not been granted purchasing authority by DGS/PD for the use of the State's statewide contracts may access the Purchasing Authority Application at [www.pd.dgs.ca.gov/deleg/pamannual.htm](http://www.pd.dgs.ca.gov/deleg/pamannual.htm) or may contact DGS/PD's purchasing Authority Management Section by e-mail at [pams@dgs.ca.gov](mailto:pams@dgs.ca.gov).
4. Ordering State departments must adhere to all applicable State laws, regulations, policies, best practices, and purchasing authority requirements, e.g., California Codes, Code of Regulations, State Administrative Manual, Management Memos, and Purchasing Authority Manual.

### DGS ADMINISTRATIVE FEES

The DGS will bill each State department and local agency an administrative fee for use of this statewide contract. The administrative fee should NOT be included in the order total, nor remitted before an invoice is received from DGS. (You may click on "DGS Price Book" at: <http://www.ofs.dgs.ca.gov/Price+Book/P/Purchasing.htm> for current fees.)

### CONTRACT ADMINISTRATOR

The State and the contractor have assigned a single point of contact (noted on Page 2 of this contract) for problem resolution and related contract issues.

State Contract Administrator:	Nicole Delgado
Address:	DGS/Procurement Division 707 Third Street, 2nd Floor West Sacramento, CA 95605
Telephone:	(916) 375-4476
Facsimile:	(916) 375-4613
E-Mail:	<a href="mailto:Nicole.Delgado@dgs.ca.gov">Nicole.Delgado@dgs.ca.gov</a>

EF Johnson Co. Contact:	Vince Jadulang
Address:	1440 Corporate Dr. Irving, TX 75038
Telephone:	(714) 858-8116
Facsimile:	(972) 819-0639

### PROBLEM RESOLUTION:

The first step in problem resolution is to call EF Johnson Co. Ordering agencies with unresolved issues after five (5) working days of first contact with EF Johnson Co. should contact the State's contract administrator immediately for resolution.

## Contract (Mandatory): 1-07-58-27

### ORDERING PROCEDURE

State agencies shall complete and submit a Purchasing Authority Purchase Order (Std. 65) directly to the contractor. The Std. 65 shall contain the following information:

1. Agency Billing Code
2. Contract Number
3. Commodity Code
4. Line Item Number
5. Description
6. Unit Price
7. Extension Price
8. Purchasing Authority number (State departments only)

All State agencies shall complete and submit a purchasing authority purchase order (STD. 65) to the Department of General Services Telecommunications Division, Office of Public Safety Communications Services for approval prior to submitting the order to the contractor. Any order submitted without the proper approval will not be accepted/processed by the contractor.

Local agencies may submit a local agency purchase order following the same guidelines as described above.

Note: Contractor shall not accept purchase orders from State or local agencies without a State issued billing code and DGS Telecommunications approval.

All ordering agencies are required to forward a copy of each purchase order to the Department of General Services (DGS), Procurement Division, Data Entry, P.O. Box 989052, West Sacramento, CA 95798-9052 (IMS# Z-1).

### ORDER ACKNOWLEDGEMENT/CONFIRMATION

The contractor must confirm receipt of the STD 65 within 48 hours of receipt by either e-mail or facsimile. Acknowledgement of order to each ordering agency shall include the order number, agency purchase order number, total cost of order, and delivery date of products.

Contractor shall issue unique order numbers to the users of this contract.

### ORDERING METHODS

#### 1. FACSIMILE ORDERS:

Fax Number: 972-819-0639

#### 2. MAIL ORDERS:

List below the location to which Purchasing Authority Purchase Orders should be sent.

Company Name: EF Johnson Co.  
Street Address: 1440 Corporate Dr.  
City, State, Zip: Irving, TX 75038  
Contract Administrator: Vince Jadulang

## Contract (Mandatory): 1-07-58-27

### DELIVERY

Complete delivery is to be made within 60 days after receipt of order (ARO) by the contractor.

Delivery shall be made to any State or local agency within California. Contractor must notify the ordering agency and State contract administrator within 24 hours from receipt of order if delivery cannot be made within the time specified. Under no circumstance is the contractor permitted to make unauthorized substitutions, without the authorization of the State's contract administrator.

Contractor is requested to make deliveries in Los Angeles County, Orange County, San Bernardino metropolitan area, and San Diego metropolitan area during off-peak hours. Off-peak hours are 10:00 a.m. to 4:00 p.m.

#### Note:

In accordance with paragraph 15 of the General Provisions entitled "Delivery", the contractor shall strictly adhere to the delivery terms and completion schedules as specified in this contract. Failure to comply with the delivery requirements as stated, may be considered a breach of contract and subject the contractor to General Provisions 26, entitled "Rights and Remedies of the State for Default".

### CONTRACTOR RESPONSIBILITY

1. Contractor shall perform all deliveries to facilities in a safe and professional manner. Contractor's equipment shall be in good working order and all personnel shall be trained in safety measures to preclude accidents endangering personnel or property.
2. Contractor must commit to delivery as requested, at time stated on accepted orders, through the term of the contract.
3. Contractor shall provide office and personnel resources for responding to requests, including telephone coverage weekdays during the hours of 8:00 AM through 5:00 PM (PST).

### PACKAGING

A packing slip will be included with each shipment, which will include at least the following information in no particular order:

- A. Line Item Description
- B. Quantity Ordered
- C. Quantity Included in Shipment
- D. Number of Parcels
- E. Purchase Order Number
- F. Agency Name and Department
- G. Destination
- H. All Information Contained in the Packing Label

A packing label will also be included with each order shipped and include the following items, visible on the outside of the box:

- A. Authorized Purchaser
- B. Address
- C. Department and Floor
- D. Authorized Purchaser Telephone Number

## Contract (Mandatory): 1-07-58-27

### INVOICING REQUIREMENTS

Ordering agencies may require separate invoicing, as specified by each ordering organization. The invoices must use the contractor's invoice that includes at a minimum their name, address, and telephone number. The contractor will also issue invoices identifying, at a minimum, the components listed below:

1. State's contract number
2. Agency purchase order number
3. Agency billing code
4. Purchasing agency - delivery address of the order
5. Product(s) description
6. Manufacturer's product(s) number(s)
7. Price(s) per unit(s) and extended price
8. Quantities of merchandise issued
9. Date ordered
10. Date delivered
11. Prompt payment discounts/cash discounts, if applicable, shall be clearly indicated on each invoice as a written statement.
12. Totals for each order. Each invoice shall have a total for all orders, a total for all credits, and amount due from each agency.
13. Any other mutually agreed upon requirements the State may later deem necessary.

Deviations/substitutions will not be permitted.

The State's obligation to make payment pursuant to the contract is subject to availability of appropriation funds. Receipt of a Purchasing Authority Purchase Order under this contract is proof of funds for that order.

### CONTRACT VALUE AND QUANTITIES

There is no guaranteed guaranteed dollar value for this contract. The State will not be obligated to purchase contractor's excess inventory if actual purchases vary from the anticipated purchasing pattern. The estimated quantity used was based upon a twelve (12) month usage pattern and projected for a THREE (3) YEAR PERIOD.

### PRICES

All prices shall be maximum for the contract period subject to the State receiving full benefit of all manufacturer's price declines effective on the date of manufacturer's announcement notice to the general public.

Justification for price changes after three years must be supplied by the contractor in a written request which must be approved in writing by the State. Such notice shall include substantiated information to support the proposed escalation (e.g., manufacturer's price list, significant changes in published market indicators for the industry, certified raw material cost data, and any other substantiating information as requested by the State.)

1. Upon receipt of such notice the State reserves the right to either:
  - a. Accept the escalation as competitive with the general market price at that time, effective 30 days after written approval from the State; or
  - b. Negotiate proposed price escalation (pursuant to PCC 6611(b)). Note: The State will notify, in writing, the contractor of its desire to negotiate. The State will have ten (10) working days to complete negotiations; or
  - c. Cancel any unpurchased balance of the contract without prejudice, effective upon written notice by the State.

## Contract (Mandatory): 1-07-58-27

**Note:** If negotiations fail to produce an agreement, the State reserves the right to exercise Options a or c with an effective date no later than ten (10) working days after unsuccessful negotiations.

2. No price increase shall apply to quantities ordered from the contract prior to the effective date of the price increase.
3. Accepted escalation price increase shall be maximum for a period of 180 calendar days from the effective date of the price increase. Any additional request for price increases must be submitted, in writing, to the Procurement Division not earlier than 150 calendar days from the effective date of the original or prior price increase.

When it is in the best interest of the State, the department may negotiate amendments to the terms and conditions, including scope of work, of existing contracts for goods, services, information technology, and telecommunications, whether or not the original contract was the result of competition, on behalf of itself or another State agency, PCC 6611(b).

### SALES TAX

Sales tax should be added at time of invoicing. The sales tax rate applied should be based on the rate of the area where the product is to be delivered.

### FREIGHT ON BOARD (F.O.B) DESTINATION

All prices are F.O.B destination; freight prepaid by the contractor, to the ordering agencies receiving point. Responsibility and liability for loss or damage for all orders will remain with the contractor until final inspection and acceptance, when all responsibility will pass to the ordering agencies, except the responsibility for latent defects, fraud, and the warranty obligations.

### MODIFICATIONS

The State expects to update the established common configurations for Portable Hand Held Radios periodically, as technology changes. This is estimated to take place approximately every twelve (12) months. The contractor is required to:

1. Support this effort throughout the life of the contract.
2. Maintain the blanket government discounts at the levels set forth in the contract, even as configurations evolve.
3. Proactively report to the State Contract Administrator at least every 12 months (or as needed) on changes in technology and make recommendations for configuration changes.

### SPECIFICATION COMPLIANCE

All products must conform to the attached State of California Specification Number HT-097 dated January 2007 of 17 pages. Products not meeting all specified requirements will be deemed non-compliant to specifications and will be subject to the terms set forth in the Public Safety Radio Goods Special Provisions TD-947 and General Provisions.

This contract shall comply with the attached Public Safety Radio Goods Special Provisions TD-947, Service Manual Requirements TD-927 and "Technical Training Requirements".

### WARRANTY

Please refer to Page 1, Section 4 of the Public Safety Radio Goods Special Provisions TD 947 for warranty information.

## Contract (Mandatory): 1-07-58-27

### PAYEE DATA RECORD

Each State accounting office must have a copy of the Payee Data Record (Std.204) in order to process payments. Agencies should forward a copy of the Std. 204 to their accounting office(s). Without the Std. 204, payment may be unnecessarily delayed.

### CALIFORNIA SELLER'S PERMIT

EF Johnson Co.'s retailer's seller's permit number is 30-643211.

Agencies can verify that permits are currently valid at the following website: [www.boe.ca.gov](http://www.boe.ca.gov)

### USAGE REPORTS

The contractor shall provide a quarterly detailed usage report by line item and commodity code to the Contract Administrator in Excel format via e-mail or U.S. Mail on a CD. All reports are due by the 15th day following the ending of a contract quarter. Report shall contain the following elements:

- A. Contract Number with Month/Year of report
- B. Line Item Number
- C. Invoice Number
- D. Invoice Date
- E. Purchase Order Number
- F. Order Date
- G. Delivery Date
- H. Agency Bill Code
- I. State/Local Governmental Agency
- J. Agency Department Name
- K. Manufacturer Part Number
- L. Item Description
- M. Quantity
- N. Contract Price
- O. CA Certified SB/DVBE item (Yes/No)

### REPORTING COMPLIANCE

Contractor shall comply with the reporting requirements as specified. If contractor fails to meet delivery times as specified for any one of the required reports, a one percent (1%) discount will be applied to the contract pricing on all future orders for 30 days or until the delinquent report(s) are delivered, whichever is greater. At the end of the thirty days or at the time of delivery of the reports, the discount will revert to the original contract price.

Contract pricing discounts for reporting non-compliance will commence 3 months after contract award. Failure to submit COMPLETED quarterly reports within the time period required may be considered a breach of contract and subject the contractor to General Provisions 26, "Rights and Remedies of State for Default".



Contract (Mandatory): 1-07-58-27

ITEM NO.	COMMODITY NO. SUPPLIER PART NO.	SUPPLIER NO.	UNIT	DESCRIPTION	UNIT PRICE
1	5820-300-0156-5	802938	EA	RADIO HAND HELD TRANSMITTER RECEIVER (AS DESCRIBED) TRANSMITTER RECEIVER PORTABLE HAND HELD 700/800 MHZ, CONVENTIONAL ANALOG AND DIGITAL P25, TRUNKED SMARTNET II/SMARTZONE, TRUNKED DIGITAL P25 IN ACCORDANCE WITH STATE SPECIFICATION HT-097 DATED JANUARY 2007.	1,395.0000
				Brand: E F JOHNSON Model: 5100	
2	5820-000-0036-0	802938	EA	HAND HELD TRANSMITTER RECEIVER COMPONENT (AS DESCRIBED) REMOTE SPEAKER/MICROPHONE IN ACCORDANCE WITH STATE SPECIFICATION HT-097 DATED JANUARY 2007.	75.4000
				MODEL/PART NUMBER: 589-0015-057	
3	5820-300-0326-4	802938	EA	BATTERY CHARGER SINGLE UNIT BATTERY CHARGER, SINGLE UNIT IN ACCORDANCE WITH STATE SPECIFICATION HT-097 DATED JANUARY 2007.	70.0000
				MODEL/PART NUMBER: 250-5100-215	
4	5820-000-0037-2	802938	EA	BATTERY CHARGER MULTIPLE UNIT BATTERY CHARGER, MULTI-UNIT IN ACCORDANCE WITH STATE SPECIFICATION HT-097 DATED JANUARY 2007.	336.4000
				MODEL/PART NUMBER: 250-5100-245	

**Contract (Mandatory): 1-07-58-27**

ITEM NO.	COMMODITY NO. SUPPLIER PART NO.	SUPPLIER NO.	UNIT	DESCRIPTION	UNIT PRICE
5	5820-000-0013-0	802938	EA	BATTERY HAND HELD RADIO BATTERY, SPARE IN ACCORDANCE WITH STATE SPECIFICATION HT-097 DATED JANUARY 2007.  MODEL/PART NUMBER: 587-5100-360	55.0000
6	5820-000-0034-7	802938	EA	PROGRAMMING SOFTWARE (FOR USE WITH COMMUNICATION GROUP) PROGRAMMING AND ALIGNMENT SOFTWARE IN ACCORDANCE WITH STATE SPECIFICATION HT-097 DATED JANUARY 2007.  MODEL/PART NUMBER: 023-9998-488	222.1500
7	5820-000-0033-5	802938	EA	PROGRAMMING INTERFACE (FOR USE WITH COMMUNICATION GROUP) PROGRAMMING INTERFACE IN ACCORDANCE WITH STATE SPECIFICATION HT-097 DATED JANUARY 2007.  MODEL/PART NUMBER: 023-5100-920	76.1700
8	5820-000-0057-8	802938	EA	KIT SERVICE AID (FOR USE WITH COMMUNICATION GROUP) SERVICE AID KIT IN ACCORDANCE WITH STATE SPECIFICATION HT-097 DATED JANUARY 2007.  MODEL/PART NUMBER: 250-5100-005	253.2600

Contract (Mandatory): 1-07-58-27

ITEM NO.	COMMODITY NO. SUPPLIER PART NO.	SUPPLIER NO.	UNIT	DESCRIPTION	UNIT PRICE
9	5820-000-0032-3	802938	EA	MANUAL SERVICE (FOR USE WITH COMMUNICATION GROUP) SERVICE MANUAL IN ACCORDANCE WITH SERVICE MANUAL REQUIREMENTS, TD-927.  MODEL/PART NUMBER: 001-5100-0014	26.6600
10	5820-000-0031-1	802938	EA	MANUAL OPERATOR (FOR USE WITH COMMUNICATION GROUP) OPERATOR MANUAL IN ACCORDANCE WITH STATE SPECIFICATION HT-097 DATED JANUARY 2007.  MODEL/PART NUMBER: 002-5100-1006	8.1200
11	5820-000-0042-6	802938	EA	TRAINING TECHNICAL (FOR USE WITH COMMUNICATION GROUP) OPERATION AND MAINTENANCE TRAINING IN ACCORDANCE WITH "TECHNICAL TRAINING REQUIREMENTS".  MODEL/PART NUMBER: N/A	11,150.0000

Contract (Mandatory): 1-07-58-27

ITEM NO.	COMMODITY NO. SUPPLIER PART NO.	SUPPLIER NO.	UNIT	DESCRIPTION	UNIT PRICE
12	5820-000-0036-0	802938	EA	HAND HELD TRANSMITTER RECEIVER COMPONENT (AS DESCRIBED)	3,750.0000
ACCESSORY SUPPLEMENTAL PRICING					
<p>THE STATE MAY REQUIRE ACCESSORIES/COMPONENTS TO INTERMEMBER WITH THE PORTABLE RADIOS NOTED ABOVE. THE DISCOUNT FROM MANUFACTURER'S LIST PRICE, WHICH MAY BE DEDUCTED FROM SUCH ITEMS IS SHOWN BELOW. ALL PURCHASES FROM THE CATALOG INDICATED BELOW ARE SUBJECT TO THE SAME TERMS AND CONDITIONS AS CONTRACT ITEMS LISTED ABOVE.</p> <p>ACCESSORY/COMPONENT CATALOG ITEMS BELOW WILL BE A PART OF THE CONTRACT. ACCESSORY/COMPONENT ITEMS ADDED TO THE CATALOG BY THE MANUFACTURER DURING THE CONTRACT TERM MAY BE ADDED TO THE CONTRACT.</p>					
<p>DISCOUNT 25%</p> <p>CATALOG NUMBER EF JOHNSON PRICE BOOK</p> <p>CATALOG DATE 2/1/2007</p>					
13	9838-000-0008-3	802938	EA	WARRANTY EQUIPMENT (AS DESCRIBED) 42 MONTH WARRANTY IN ADDITION TO THE 18 MONTH WARRANTY SPECIFIED IN SECTION 4 (C) OF THE ATTACHED TD-947.	171.0000
FOR DATA ENTRY USE ONLY					
14	5820-000-0062-1	802938	VA	COMMUNICATION EQUIPMENT-DGS/PROCUREMENT USE ONLY	VARIABLE

## Technical Equipment Specification

Equipment Type: Transmitter/Receiver

Portable Hand-Held

700/800 MHz

Conventional Analog and Digital P25

Trunked Smartnet II/Smartzone

Trunked Digital P25

Specification Number: HT-097

Issue Date: January 2007

Number of Pages: 17

The bidder shall submit information about the equipment being supplied below and on the subsequent pages.

Company Name:

*EF Johnson Co.*

Equipment Brand:

*EF Johnson*

Equipment Model:

*5173*

## 1 General

- 1.1 This technical equipment specification describes a 700/800 MHz portable hand-held radio (station).
- 1.2 The station shall be used by the State of California (State) in a public safety land mobile radio system.
- 1.3 The station shall operate on the following modes upon delivery:
  - 1.3.1 Conventional analog FM on both wide and narrowband channels.
  - 1.3.2 Conventional digital Project 25.
  - 1.3.3 Trunked digital Project 25.
  - 1.3.4 Trunked analog Motorola Smartnet II and Smartzone.
  - 1.3.5 Trunked digital Motorola Smartnet II and Smartzone.
- 1.4 The station shall be delivered capable of tx/rx AES encrypted signals while operating in the P25 modes.
- 1.5 The station shall be programmed by the State.

## 2 Overall Station Requirements

The station shall meet or exceed the following performance standards:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
2.1	Operating Frequency Band			
2.1.1	Transmit			
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	764-767 MHz talkaround			
	773-776 MHz talkaround			
	794-797 MHz repeater			
	803-806 MHz repeater			
	806-824 MHz repeater			
	851-869 MHz talkaround			
2.1.2	Receive			
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	764-767 MHz			
	773-776 MHz			
	851-869 MHz			

The station shall meet or exceed the following performance standards:		Meets Requirement		Provide supporting data about the equipment	
		Yes	No		
2.2	Channel Capacity (minimum)	512 transmit and receive	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.3	Channel Spacing	12.5 kHz, and 25 kHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.4	Carrier Frequency Stability	±1.5 PPM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.5	Operating temperature	-30° to +60° C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.6	Frequency Generation	Internal synthesizer and/or embedded microprocessor technology.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.7	Controlled Squelch	Each transmit and receive channel shall be independently programmable to operate with:  P25 Digital network access code (NAC)  Tone controlled squelch (CTCSS); and/or  Digital controlled squelch (CDCSS).  The encoder and decoder shall operate independently of each other.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.7.1	Encoder/ Decoder		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.7.2	Signaling – Analog mode	Generate/ decode all CTCSS tones and CDCSS codes listed in TIA/EIA-603-B Sections 1.3.5, 2.4, 3.4.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

The station shall meet or exceed the following performance standards:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
2.7.3	Signaling – Digital mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Generate/ decode all P25 Network Access Codes (NAC) listed in TIA/EIA-102.BAAA.			
2.7.4	CTCSS Deviation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	250 / 500-750 Hz (12.5/25 kHz)			
2.7.5	Monitor switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Allows the operator to disable the receiver controlled squelch programmed in any channel.			
2.7.6	"AND" squelch configuration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	The receive audio path shall be un-muted only when an on-frequency carrier is qualified by the receiver and the correct signaling is decoded.			
2.8	Channel Scan			
	Scans any or all of the channels within the selected operating group.			
2.8.1	Groups of Channels	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Each group shall be programmable.			
2.8.2	Channels per Group	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	16 minimum			
2.8.3	Scan activation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	The station shall include operator controls.			
2.8.4	Dual priority	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	One priority channel shall be preprogrammed and the other priority channel shall be operator-selectable.			



The station shall meet or exceed the following performance standards:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
2.8.5	Channel priority	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	The priority 1 channel shall have priority over the remaining scanned channels including the priority 2 channel, regardless of its relative signal strength or time of signal arrival at the receiver.			
2.8.6	Power Off operation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	The scan mode programming (basic and operator-entered) shall not be affected by the operation of the primary power on/off switch.			

### 3 Transmitter Requirements

The transmitter shall meet or exceed the following analog performance requirements:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
3.1	Carrier Output Power Rating	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	2.5 W minimum, adjustable on a per channel/mode basis			
3.2	Modulation Limiting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	$\pm 2.5$ kHz (12.5 kHz) $\pm 4$ kHz (NPSPAC) $\pm 5$ kHz (25 kHz)			
3.3	Audio Frequency Response	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	$+1$ , $-3$ dB; 300-3000Hz; 6dB /octave; Complies with T1A/EIA-603 Section 4.2.6.			

The transmitter shall meet or exceed the following analog performance requirements:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
3.4	Audio Distortion	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.5	FM Hum and Noise Ratio	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.6	Conducted Spurious Emissions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.7	Time-Out-Timer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Limits the duration of the station transmission.			
3.7.1	Transmission Duration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	0.5 to 2 minutes minimum			
3.7.2	Timer factory setting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	1 minute			
3.7.3	Automatic reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	<100 milliseconds (after interruption of the transmitter keying circuit)			

#### 4 Receiver Requirements

The receiver shall meet or exceed the following analog performance requirements per ANSI/TIA 603B and digital performance requirements per ANSI/TIA 102 CAAA-A & CAAB-A:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
4.1	Reference Sensitivity			
4.1.1	Analog Mode (EIA 12 dB SINAD)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	-118 dBm			
4.1.2	Digital Mode (5% BER)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	-118 dBm			
4.2	Adjacent Channel Rejection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	60/72 dB (12.5/25 kHz)			
4.3	Spurious Response Rejection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	70/70 dB (12.5/25 kHz)			
4.4	Intermodulation Rejection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	70/70 dB (12.5/25 kHz)			

The receiver shall meet or exceed the following analog performance requirements per ANSI/TIA 603B and digital performance requirements per ANSI/TIA 102.CAAA-A & CAAB-A:			Meets Requirement		Provide supporting data about the equipment
			Yes	No	
4.5	Audio Frequency Response	+1,-3 dB; 300-3000Hz; 6dB /octave;  Complies with TIA/EIA-603 Section 4.1.10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.6	Audio Distortion	3 %	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.7	Audio Output	500 mW	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.8	Squelch Tail Elimination – Analog mode	Eliminate the noise burst heard in the receiver at the conclusion of receiving a signal.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

## 5 Trunking Requirements

The station shall meet or exceed the following trunking performance requirements:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
5.1	Trunking system	Motorola Smartnet II and Smartzone		
5.2 The station shall operate on:				
5.2.1	Trunked analog Smartnet II/Smartzone.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.2.2	Trunked digital Smartnet II/Smartzone	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.2.3	Trunked digital Project 25	<input checked="" type="checkbox"/>	<input type="checkbox"/>	



## 6 Digital Operation Requirements

The station shall meet or exceed the following digital performance requirements:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
6.1	The station shall be capable of operating in the following modes:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.1.1	Conventional digital Project 25.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.1.2	Trunked digital Project 25.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.2	Digital Project 25, Phase I operation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Comply with the TIA 102 suite of standards. In particular, the following: BAAA, BAAAB, BAAC, BAAD BABA, BABB, BABC
6.2.1	Common Air Interface	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.2.2	Vocoder	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.3	Operation in mixed/dual mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The station shall switch seamlessly between operation in the analog and digital P25 modes on a per call basis.
6.4	Digital Encryption, P25	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Capable of Advanced Encryption Standard (AES), as adopted by P25 document ANSI/TIA/EIA 102-AAAD

## 7 Physical Requirements

The station shall meet or exceed the following physical requirements:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
7.1	Flexible, covered antenna	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Readily removable utilizing a screw-in connector. BNC connectors are not acceptable.
7.2	Display			
7.2.1	Alphanumeric data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	At least 1 line with 10 characters on the line. Unique to each channel.
7.2.2	Readable in all conditions from direct sunlight to total darkness.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.2.3	Backlighting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Operator-adjustable.
7.3	Controls			
7.3.1	On/Off and volume knob	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mounted on the top.
7.3.2	Rotary channel selector knob	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Selects 16 channels/modes minimum. Mounted on the top.
7.3.3	Channel/mode group selection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3 Position switch for commonly used groups as well as a full keypad to minimize multiple button selections when accessing all groups.
7.3.4	Programmable function keys	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Include keypad lockout.

The station shall meet or exceed the following physical requirements:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
7.3.5	Emergency Alert button	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Mounted on the top with easy access.			
7.3.6	Keypad	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Access to all channel/mode groups specified in section 2.2.			
7.4	Internal speaker/ microphone	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Connection of an external speaker/ microphone shall mute the internal speaker/ microphone.			
	Connection of an external earpiece shall mute the internal speaker.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.5	Provide universal or individual connectors for:			
	(Microphone and earpiece connections must be capable of supporting multiple types of microphone/earpiece devices (including types used in surveillance))			
7.5.1	External speaker/ microphone	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.5.2	Earpiece	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.5.3	Programming interface	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

The station shall meet or exceed the following physical requirements:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
7.6	Indicators			
7.6.1	Station transmitting and receiving	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Indicators must be capable of being disabled in surveillance mode			
7.6.2	Battery status	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.6.3	Secure (encryption) mode status	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Display icon or other indication			

## 8 Electrical Requirements

The station shall meet or exceed the following electrical requirements:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
8.1	Rechargeable battery pack	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Lithium-ion, or nickel-metal hydride.			
8.1.1	Battery Life	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	11 hours (minimum)			
	Based on duty cycle:			
	5% transmit at full power;			
	5% receive; and 90% standby			
8.1.2	Rapid Charge-able	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Approx. 1 hour			
8.1.3	The battery shall fasten securely to the radio.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8.1.4	The battery shall be replaceable without the use of tools.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	



	The station shall meet or exceed the following electrical requirements:	Meets Requirement		Provide supporting data about the equipment
		Yes	No	

8.1.5 Compatible with intelligent battery charger for extended battery lifecycle.

## 9 Accessory Equipment

	Supply the following accessory equipment in the quantities specified on the equipment order.	Meets Requirement		Provide supporting data about the equipment
		Yes	No	

9.1 Battery Charger – single unit

Operates from 120 VAC. ☒ ☐

"Rapid charges" a battery in approx. 1 hour.

If a battery remains in the charger after it is fully charged, the charger shall automatically switch to trickle charge and shall avoid overcharging the battery.

Charger logic shall include the necessary intelligence to monitor the battery parameters of each battery during the charging process and condition or adapt charging for extended battery lifecycle.



Supply the following accessory equipment in the quantities specified on the equipment order:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
9.2	Battery Charger – multiple unit (4 minimum)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Operates from 120 VAC. “Rapid charges” a battery in approx. 1 hour. If a battery remains in the charger after it is fully charged, the charger shall automatically switch to trickle charge and shall avoid overcharging the battery. Charger logic shall include the necessary intelligence to monitor the battery parameters of each battery during the charging process and condition or adapt charging for extended battery lifecycle.
9.3	Spare battery pack	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Comply with the electrical requirements in Section 8.
9.4	Remote speaker / microphone	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
9.4.1	Heavy-duty palm-type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
9.4.2	Push-to-talk switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
9.4.3	Self-retracting coil cord	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Supply the following accessory equipment in the quantities specified on the equipment order:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
9.4.4	Station connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fitted with a plug to mate with the microphone input. Includes a mechanism to prevent the unintentional removal of the connector from the station.
9.4.5	Earpiece interface (optional)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If provided, connection of an external earpiece shall mute the speaker.
9.5	Service aid kit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Provide equipment required for routine service, level setting and programming.
9.5.1	Examples of items to include:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Special nonstandard trade tools; Battery eliminator for substituting a power supply for the battery; Special cable and/or box for access to the station's receive audio, transmit audio, and external PTT; Antenna adapter (usually to BNC female).

Supply the following accessory equipment in the quantities specified on the equipment order:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
9.6	Programming and alignment software	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	For use with a personal computer to permit programming and reprogramming of the station.			
9.6.1	Computer operating system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Compatible with Microsoft Windows 2000 and Windows XP Professional.			
9.6.2	Software media	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	CD			
9.6.3	Provide programming instructions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
9.6.4	Software Usage / License	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Comply with the requirement in Form TD-947, Public Safety Radio Goods, Special Provisions.			
9.6.5	All channels shall be individually programmable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Parameters: digital or analog mode, RF frequency, power, modulation, scan and digital P25 NAC or analog CTCSS/DCSS signalling			
9.7	Programming interface cable/box	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	For use with the programming software and the station.			
9.7.1	Personal Computer Connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Serial or USB 2.0 port			



Supply the following accessory equipment in the quantities specified on the equipment order:		Meets Requirement	Provide supporting data about the equipment
		Yes	No
9.8	Operator Manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.8.1	Provide a hardcopy of the manual.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.8.2	Contents of manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Location of all switches, controls and indicators;			
Step-by-step instructions to operate all equipment features.			
9.9	Service Manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.9.1	Provide a hardcopy of the manual.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9.9.2	Contents of manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comply with Form TD-927, Service Manual Requirements.			

## 10 Standards

The station shall comply with the following documents and standards:		Meets Requirement	Provide supporting data about the equipment
		Yes	No
10.1	Form TD-947	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public Safety Radio Goods, Special Provisions			
10.2	MIL-STD-810E (or equivalent F standards)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comply with the following Military Environmental Test Methods and Engineering Guidelines:			
10.2.1	Low Pressure Operation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10.2.2	High Temperature, Storage / Operation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
500.3 Procedure II			
501.3 Procedure I/II			

The station shall comply with the following documents and standards:		Meets Requirement		Provide supporting data about the equipment
		Yes	No	
10.2.3 Low Temperature, Storage / Operation	502.3 Procedure I / II	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10.2.4 Temperature Shock	503.3 Procedure I	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10.2.5 Solar Radiation	505.3 Procedure I	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10.2.6 Humidity	507.3 Procedure II	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10.2.7 Dust, Blowing	510.3 Procedure I	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10.2.8 Vibration	514.4 Procedure I	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10.2.9 Shock, Functional	516.4 Procedure I	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10.2.10 Rain, Blowing / Dripping Water (for metal case)	506.3 Procedure I / II	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10.2.11 Salt Fog (for metal case)	509.3 Procedure I	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

**PUBLIC SAFETY RADIO GOODS  
SPECIAL PROVISIONS**

TD-947 (Rev. 02/07)

**1. TECHNICAL STANDARDS**

- a) Where applicable, all goods delivered shall meet or exceed the requirements contained in the Code of Federal Regulations, Title 47 Telecommunication, Chapter I Federal Communications Commission Rules and Regulations, in particular:
  - i) Part 2, Subpart I, "Marketing of Radio Frequency Devices" (47CFR2.803). All goods offered shall be authorized by the FCC by the bid due date.
  - ii) Part 15, Radio Frequency Devices (47CFR15).
  - iii) Part 90, Private Land Mobile Radio Service (47CFR90).
  - iv) Part 101, Fixed Microwave Services (47CFR101).
- b) Where applicable, all goods operating in the analog mode shall meet or exceed all applicable performance standards listed in TIA/EIA-603, "Land Mobile FM and PM Communications Equipment Measurement and Performance Standards".
  - i) The State will consider goods tested under comparable performance standards listed in documents EIA-152-C, "Minimum Standards for Land Mobile Communication FM or PM Transmitters, 25-866 MHz", EIA/TIA-204-D, "Minimum Standards for Land Mobile Communication FM or PM Receivers, 25-866 MHz", and EIA-220-B, "Minimum Standards for Land Mobile Communication Continuous Tone-Controlled Squelch Systems (CTCSS)", which were superseded by TIA/EIA-603.
  - ii) Specification compliance testing conducted by the State, however, will be conducted in accordance with the methods, procedures, and requirements of TIA/EIA-603. All measurements of transmitter radio frequency specifications shall be made at the transmitter chassis antenna connector. All measurements of receiver radio frequency specifications shall be made at the receiver chassis antenna connector. Measurements of received audio response and distortion shall be made at the speaker output.
  - iii) The performance requirements contained within the technical specifications further define and, in some cases, exceed the requirements contained in TIA/EIA-603. In the event of a conflict between performance requirements contained in TIA/EIA-603 and the performance requirements contained in the specification, the requirements contained in the specification shall prevail.
- c) Where applicable, all goods operating in the digital mode shall meet or exceed all applicable APCO Project 25 system standards listed in the TIA/EIA 102 series of standards, interim standards and technical bulletins.
- d) Where applicable, all goods operating within 806-809 / 821-824 MHz and 851-854 / 866-869 MHz shall comply with the recommendations set forth in the National Public Safety Planning Advisory Committee 800 MHz NPSPAC Channel Regional Communications Plan for Regions 5 and 6 approved by the Federal Communications Commission (FCC) in 47CFR90.621(g).

**2. SPECIAL ORDERING PROVISIONS**

During the thirty-calendar day period immediately following purchase order issuance, the State reserves the right to increase the quantity ordered by up to twenty-five percent, or as otherwise specified, at rates not to exceed those contained herein.

**3. SPECIFICATION COMPLIANCE TESTING**

- a) Goods may be inspected before acceptance for workmanship, appearance, and conformance to all other requirements of the specifications. The State may reject any shipment or item of a shipment that is not in compliance with specification requirements or is otherwise defective in any manner.

- b) Within fifteen calendar days after contractor first receives notice of rejection, contractor shall, if requested by the State, remove rejected goods from the State's facilities. Upon failure of contractor to remove such goods from the State's facilities within the specified period, the State may forward such goods to contractor by common carrier, at contractor's expense and risk.
- c) Unless otherwise specified, and at no cost to the State, all rejected goods shall be repaired or replaced by contractor and shall be returned to the State within thirty calendar days from the date the goods are made available on, or removed from, the State's facilities, whichever occurs first.
- d) Unless otherwise specified, if contractor does not deliver goods meeting specifications within sixty calendar days from the date the goods are made available on, or removed from, State's facilities, whichever occurs first, contractor shall be deemed to be in default, and the State will terminate the purchase order in whole or in part in accordance with the Termination for Default provision contained in the General Provisions.
- e) At the State's option, contractor may be permitted to make repairs of rejected goods at the State's facilities.

**4. MINIMUM GUARANTEES AND WARRANTIES**

- a) Contractor is responsible for all guarantees and warranties required herein. Any guarantee/warranty offered by the original goods manufacturer shall not relieve contractor of this responsibility.
- b) If contractor is other than the manufacturer of goods delivered, contractor warrants that the manufacturer has authorized contractor to sell goods delivered. At the request of the State, written verification by manufacturer of such authorization shall be immediately provided.
- c) All goods delivered shall be guaranteed by contractor against defects for eighteen months from date of acceptance.
- d) During the guarantee period, contractor shall repair or replace, at its option and expense, all defective goods, or refund the purchase price thereof.
- e) Unless otherwise specified, if contractor has not completed guarantee repair within thirty calendar days after notification of a malfunction, the State may effect such repairs and bill contractor for material cost and labor cost at the State technician current hourly rate.
- f) Workmanship and materials provided by contractor in the performance of any installation work required shall be guaranteed for ninety calendar days after installation. Workmanship or materials which are found to be defective during this period shall be promptly corrected at contractor's expense.
- g) During the Warranty Period, Contractor shall manage the individual warranties and maintenance services (if any) of the third-party Goods. If the third-party Goods do not function as warranted during the Warranty Period, Contractor will correct the deficiency.

**5. DESIGN DEFECT**

- a) A design defect shall be defined as identical failures occurring within five years after delivery in at least five units or five percent, whichever is larger, of identical assemblies, subassemblies, or parts supplied.
- b) Delivered goods shall be guaranteed by contractor against design defects for five years from date of delivery. Upon written notification to and confirmation by contractor of design defects evidenced within the five-year guarantee period, contractor shall take prompt corrective action, at no cost to the State.
- c) Whenever it is necessary for contractor to take corrective action of design defects, contractor shall take the same corrective action in all identical goods supplied.
- d) All parts and materials used in corrective action for design defects shall be guaranteed by contractor against defects for one year from date of such corrective action.

**6. SERVICE PROVISIONS**

- a) Contractor shall provide the following services that will repair or exchange, in the times indicated, all defective goods returned by the State for repair.
  - i) Emergency no-charge warranty service within five calendar days, excluding shipping time, for defective goods returned within the guarantee period.
  - ii) Non-emergency no-charge warranty service within twenty calendar days, excluding shipping time, for defective goods returned within the guarantee period.
  - iii) Emergency full-charge nonwarranty service within five calendar days, excluding shipping time, for defective goods returned after expiration of the guarantee period.

**7. AVAILABILITY OF REPAIR PARTS**

- a) Contractor shall notify State of the date of last manufacture for all goods delivered.
- b) For a period of seven years from the notice of last manufacture, contractor shall make available to the State exact replacement parts for use in the delivered goods.
- c) If exact replacement parts are not available, contractor may substitute equal or similar parts which do not deteriorate performance and which will continue to meet all specifications in effect at the time of purchase.

**8. SOFTWARE USAGE/LICENSE REQUIREMENT**

- a) The Department of General Services, Telecommunications Division, and/or the purchasing agency shall be permitted to make unlimited copies of any software required for installation and maintenance of goods supplied. Such copies shall be for the sole and exclusive use of the State designated maintenance and engineering personnel in the installation, maintenance, and operation of the delivered goods.
- b) Any need for a separate software license agreement to reflect the scope and/or limitations of this usage shall be negotiated to the mutual agreement of the parties, including Department of General Services, Procurement Division and Telecommunications Division.

**Service Manual Requirements**

TD-927 (Rev. 03/04)

1. Each service manual shall be current and shall include any revised and/or supplemental documentation if not published in the main service manual.
2. Each service manual shall contain a general information section as follows:
  - 2.1. A list of applicable subassemblies that comprise the specified equipment
  - 2.2. Overall description of the equipment design features, performance, and applications
  - 2.3. Equipment specifications summary
  - 2.4. Equipment installation instructions, if applicable.
3. Each manual shall contain a theory of equipment operation section which shall include the following items:
  - 3.1. Theory of operation of the standard equipment, with unique or unusual circuitry described in detail.
  - 3.2. Theory of operation reflecting any modifications to the standard equipment.
4. Each manual shall contain an equipment maintenance section which shall include the items as follows:
  - 4.1. Recommended test equipment and fixtures, or minimum operational and performance requirements for appropriate test equipment.
  - 4.2. Alignment and troubleshooting information and charts.
  - 4.3. Removal and installation procedures for replacing assemblies and subassemblies, if not obvious or if improper sequencing of steps may result in component damage.
5. Each manual shall contain an equipment replacement parts section which shall include a component parts list including electrical parts, mechanical parts, and assemblies. All semiconductors shall be identified by the supplier's numbers and, as applicable, by JEDEC numbers.
6. Each manual shall contain an equipment diagram section which shall include the following items:
  - 6.1. Schematic diagram(s) identifying all circuit components and showing normal test voltages and levels.
  - 6.2. An overall functional block diagram.
  - 6.3. Detailed interconnecting diagram(s) showing wiring between modules, circuit boards, and major components.
  - 6.4. Pictorial circuit board layout diagrams(s) showing both component placement and printed wiring detail.
  - 6.5. Diagram(s) showing location of circuit boards and other subassemblies.
  - 6.6. Exploded view diagram(s) of complex mechanical assemblies.
7. Each manual shall conform to the following physical requirements:
  - 7.1. All pages, including latest revisions, shall be securely fastened together between protective covers (loose-leaf ring binding is acceptable).
  - 7.2. No page shall be subject to fading from exposure to any normal source of ambient lighting (OZALID reproduced pages are not acceptable).
  - 7.3. On orders of twenty or more manuals, the cover or first page shall be printed to show equipment model number, State purchase order number and its date, and name of State agency for which the equipment is specified.
  - 7.4. On orders including less than twenty manuals, the cover or first page shall be marked in any manner to show the State purchase order number and date.



## Technical Training Requirements

### 1 Objective

Given a classroom condition with the specified equipment and materials the State technical staff shall learn the information necessary to earn the manufacturer certification for maintenance and repair.

### 2 Quantity

The State may specify on the equipment order that the supplier conduct one or more training courses.

### 3 Schedule

The training course shall be conducted within 90 days after equipment delivery or at a later specified date agreed upon by the State.

### 4 Number of Trainees

The training course shall be designed for a group of 10 State telecommunications engineers and/or maintenance technicians per class.

### 5 Length of Training Course

The length of the course shall be sufficient to provide for the training objective. The training shall not exceed 8 hours on any one day and the days shall be consecutive.

### 6 Syllabus

The training course shall be a manufacturer certified course for the equipment specified. The training course shall include but not be limited to the following topics:

- Installation and initial check-out procedures.
- Theory of operation.
- Programming software procedures.
- Routine maintenance practices and procedures.
- Trouble-shooting techniques and procedures.

A copy of the lesson plan to be used for this class by the instructor shall be forwarded to DGS Telecommunications one week before the instruction is to begin.

### 7 Instructor Qualifications

The training course shall be conducted by a manufacturer trained and certified instructor. The State prefers the training be provided by a certified instructor employed by the manufacturer. If the manufacturer does not directly employ the instructor, the supplier of the equipment shall provide, upon request, to the State, proof of certification that the instructor is manufacturer trained on the specified equipment and will present the same course as if given by the manufacturer.

### 8 Sameness of Courses

If more than one training course is specified. All training courses ordered shall be identical.

## **9 Location of Courses**

The training course(s) may be held at State facilities in Sacramento or, if agreed to by the State, at a supplier-provided site within the State of California. To use the State facilities in Sacramento, the supplier should contact:

George Rivera  
State of California, Department of General Services  
Telecommunications Division  
601 Sequoia Pacific Blvd.  
Sacramento, California 95814-0282  
916-657-9748

## **10 Course Material**

The supplier shall supply each trainee with the following material that is specific to the equipment ordered:

- A copy of the Operation and Maintenance manual in accordance with TD-927 Service Manual Requirements
- Documentation covering all modifications made to the equipment in compliance with the State specification.
- Programming Software
- Programming instruction manual
- A copy of the Manufacturer's training on CD or DVD format, if available, will be given to each student that attends a training class.